

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TOT POWER CONTROL, S.L.,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 21-1302 (MN)
)	
APPLE INC.,)	
)	
Defendant.)	
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TOT POWER CONTROL, S.L.,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 21-1304 (MN)
)	
LG ELECTRONICS, INC. and LG)	
ELECTRONICS U.S.A., INC.,)	
)	
Defendants.)	
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TOT POWER CONTROL, S.L.,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 21-1305 (MN)
)	
SAMSUNG ELECTRONICS CO., LTD. and)	
SAMSUNG ELECTRONICS AMERICA,)	
INC.,)	
)	
Defendants.)	

MEMORANDUM ORDER

At Wilmington, this 15th day of October 2024:

IT IS HEREBY ORDERED that the claim terms of U.S. Patent Nos. 7,532,865 (“the ’865 patent”) and 7,496,376 (“the ’376 patent”) (together, “the Patents-in-Suit”), with agreed-upon constructions are construed as follows (*see* D.I. 166 at 2)¹:

1. “signal to interference ratio required (SIR_{rec})” shall mean “signal to interference ratio required (SIR_{req})” (’865 patent, claim 1)

Further, as announced at the hearing on September 25, 2024 (D.I. 293) IT IS HEREBY ORDERED that the disputed claim terms of the Patents-in-Suit are construed as follows:

1. “outer loop power control” means “the process of setting SIR_{target} to maintain a preset quality objective” (’865 patent, claims 1 and 5; ’376 patent, claims 1, 6, and 13)
2. “outer loop power control” in the preamble is limiting (’865 patent, claims 1 and 5; ’376 patent, claims 1, 6, and 13)
3. “ SIR_{req} ” shall mean “theoretical minimum of the desired signal to interference ratio received (SIR_{rec}) that satisfies the target frame error rate (FER_{target})” (’865 patent, claims 1 and 5)
4. “outer loop wind-up” means “an outer loop condition or mode, that occurs outside of normal mode, wherein the signal to interference ratio received (SIR_{rec}) does not follow the desired signal to interference ratio target (SIR_{target})” (’865 patent, claims 1, 2, 3, and 5)
5. “outer loop unwinding” shall mean “the process of lowering the desired signal to interference ratio target (SIR_{target}) set during the outer loop wind-up” (’865 patent, claims 1, 2, 4, and 5)
6. “to match it to” shall be given its plain and ordinary meaning, which is “to match it to” (’865 patent, claims 1 and 5)
7. “some fading margins” shall be given its plain and ordinary meaning, which is “one or more fading margins” (’376 patent, claims 1, 6, and 13)
8. “some outage probabilities” shall be given its plain and ordinary meaning, which is “one or more outage probabilities” (’376 patent, claims 1, 6, and 13)
9. “some fading parameters” shall be given its plain and ordinary meaning, which is “one or more fading parameters” (’376 patent, claims 1, 6, and 13)

¹ All record citations are to C.A. No. 21-1302 (MN), unless otherwise noted.

10. “by means of a dynamic adjusting function which performs a mapping between a quality criterion based on the outage probabilities (p_{o1} , p_{o2} through p_{oN}) and the quality criterion based on the target block error rate ($BLER_{target}$)” shall be given its plain and ordinary meaning, which is “by means of a dynamic adjusting function which performs a mapping between a quality criterion based on the outage probabilities (p_{o1} , p_{o2} through p_{oN}) and the quality criterion based on the target block error rate ($BLER_{target}$)” ('376 patent, claims 1, 6, and 13)

The parties briefed the issues, submitted exhibits containing intrinsic and extrinsic evidence, and provided tutorials describing the relevant technology. (D.I. 166, 228, 229, 266). The Court carefully reviewed all submissions in connection with the parties’ contentions regarding the disputed claim terms, heard oral argument (D.I. 293) and applied the following legal standards in reaching its decision.

I. LEGAL STANDARDS

“[T]he ultimate question of the proper construction of the patent [is] a question of law,” although subsidiary fact-finding is sometimes necessary. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 325-27 (2015). “[T]he words of a claim are generally given their ordinary and customary meaning,” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (internal quotation marks and citations omitted). Although “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” *id.* at 1314, “the context of the surrounding words of the claim also must be considered.” *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003). “[T]he ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Phillips*, 415 F.3d at 1321.

The patent specification “is always highly relevant to the claim construction analysis, and the single best guide to the meaning of a disputed term.” *Actelion Pharms. LTD v. Mylan Pharms.*

Inc., 85 F.4th 1167, 1172 (Fed. Cir. 2023) (internal quotation marks and citation omitted). It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. “[E]ven when the specification describes only a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Cont’l Cirs. LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) (internal quotation marks and citation omitted)).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). The prosecution history, which is “intrinsic evidence, consists of the complete record of the proceedings before the [U.S. Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317 (internal quotation marks omitted). “[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

In some cases, the Court “will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 574 U.S. at 331. “Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. “Expert testimony can be useful . . . to ensure that the court’s understanding of the technical

aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. Nonetheless, courts must not lose sight of the fact that “expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Id.*

Overall, although extrinsic evidence “may be useful to the court,” it is “less reliable” than intrinsic evidence, and its consideration “is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1318-19. “When intrinsic evidence unambiguously describes the scope of a patented invention, reliance on extrinsic evidence is improper.” *Biovail Corp. Int’l v. Andrx Pharms., Inc.*, 239 F.3d 1297, 1300 (Fed. Cir. 2001).

II. THE COURT’S RULING

The Court’s ruling regarding the disputed claim terms of the Patents-in-Suit was announced from the bench at the conclusion of the hearing as follows:

At issue, there are ten disputed claim terms in two patents.^[2] I am prepared to rule on all of the disputes. I will not be issuing a written opinion, but I will issue an order stating my rulings. I want to emphasize before I announce my decisions that, although I am not issuing a written opinion, we have followed a full and thorough process before making the decisions I am about to state. I have reviewed the patents along with the evidence submitted by the parties. There was full briefing on each of the disputed terms, and we had argument here today. All of that has been carefully considered. As to my rulings, I am not going to read into the record my understanding of claim construction law and indefiniteness. I have a legal standard section that I have included in earlier opinions, including somewhat recently in *REX Computing, Inc. v. Cerebras Systems, Inc.*, Civil Action No. 21-525(MN). I incorporate that law

² The ’376 and ’865 patents.

and adopt it into my rulings today and will also set it out in the order that I issue.

First, we have the term “outer loop power control,” as it appears in the preamble of the two asserted dependent claims of the ’865 patent, claims 1 and 5, and in claims 1, 6 and 13 of the ’376 patent. The parties agree that “outer loop power control” means the “process of setting SIR_{target} to maintain a preset quality objective.” The dispute is whether the preamble is limiting. Plaintiff asserts that it is not limiting in either case and merely states an intended use of the invention claimed in the remainder of the claims. Defendants LG and Samsung maintain that the preamble is limiting.^[3] I agree with those Defendants.

I understand that the Federal Circuit has held that “[g]enerally, the preamble [of a claim] does not limit the claim[.]”^[4] I am not sure I really understand why some words that a patentee chooses to put in his claims do not limit them, but that is the law.^[5] That being said, the Federal Circuit has also recognized exceptions to this general principle, including when the preamble “serves as antecedent basis for a term appearing in the body of a claim”^[6] or otherwise “add[s] life, meaning and vitality” to the claim.^[7]

Here, the outer loop power control in the preamble provides antecedent basis for later steps. Claims 1 and 5 of the ’865 patent include at least one step referencing “the outer loop power control.” The same is true of claims 1, 6 and 13 of the ’376 patent. The only antecedent basis for “the outer loop power control” as used in the body of the asserted claims is in the preamble. Moreover, the preambles of the claims in the two patents do not, as Plaintiff argues, simply articulate the intended use of the claimed methods in those patents. Both patents are replete with references to the invention as

³ Defendant Apple takes no position on this and certain other terms. (See D.I. 166 at 3 & n.3).

⁴ *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002).

⁵ *See Alnylam Pharms., Inc. v. Pfizer, Inc.*, No. 22-336 (CFC), 2024 WL 3742313, at *4 (D. Del. Aug. 9, 2024).

⁶ *In re Fought*, 941 F.3d 1175, 1178 (Fed. Cir. 2019) (collecting cases).

⁷ *Arctic Cat Inc. v. GEP Power Prods., Inc.*, 919 F.3d 1320, 1327 (Fed. Cir. 2019) (citation omitted).

an outer loop power control method. This is made clear by the titles, the Abstracts, the Objects of the Invention, and the Description of the Invention in the specification, and also every independent claim in the two patents uses that language.^[8] These repeated references support that the preamble's reference to "outer loop power control" articulates a fundamental characteristic of the claimed method, which "add[s] life, meaning and vitality" to the claim, and that the preamble is limiting.^[9]

In addition, TOT's statements made during IPR proceedings for the '865 patent support this conclusion.^[10] I am not suggesting that they rise to a level of disclaimer, but they are relevant under Phillips. During the IPR, TOT emphasized more than once that the '865 patent's claimed inventions involved an "outer loop power control method," distinguishing prior art directed to the inner loop, saying that the '865 patent is entirely directed to improvement of the outer loop power control and asserting that the invention of the '865 patent is "directed narrowly to the operation of the outer loop power control

⁸ (See, e.g., '865 patent at Title ("Outer Loop Power Control Method and Device for Wireless Communications Systems"); *id.* at Abstract (discussing "outer loop power control" twice); *id.* at 1:12-20 ("Object of the Invention . . . [T]he invention described here refers to a communications method and device for an outer loop power control system."); *id.* at 1:51-54 (referring to "the operation of the outer loop, for which this invention proposes a method"); *id.* at 4:15-16 ("Description of the Invention . . . This invention is intended to solve" the problem of slow convergence with existing outer loop power control systems); *id.* at 4:17-22 (describing "[t]he proposed outer loop power control method and device" and describing the invention in the context of the outer loop only); *id.* at 6:57-63 (referring to "[t]he outer loop power control method of the invention")).

(See, e.g., '376 patent at Title ("Outer Loop Power Control Method and Apparatus for Wireless Communications Systems"); *id.* at Abstract (discussing "outer loop power control" twice); *id.* at 1:12-22 ("Object of the Invention . . . the invention described herein . . . relates to a method and device for the system of outer loop power control."); *id.* at 1:23-27 ("An object of the invention is to permit power control by means of the outer loop procedure."); *id.* at 1:53-56 (referring to "the functionality of the outer loop, for which this invention proposes a method"); *id.* at 5:33-46 (describing "[t]he method and device of outer loop power control"); *id.* at 9:57-65 ("The method of the invention, which is termed herein 'Outage-Based OLPC' insofar as it constitutes an outer loop power control (OLPC).")).

⁹ *Arctic Cat*, 919 F.3d at 1327.

¹⁰ It is also true that Defendant LG made contrary statements as to whether the preamble was limiting in IPR proceedings. Although that prior position may not be binding in this case, it nevertheless bears on LG's credibility before the Court.

(OLPC).”^[11] So I think for all of these reasons the preambles of the claims in the two patents are limiting.

And outer loop power control means, as the parties agree, a “process of setting SIR_{target} to maintain a preset quality objective.” I should note that a lot of the argument today seemed to focus on infringement or non-infringement arguments. But I am not addressing those today.

The next disputed term in the ’865 patent is “ SIR_{req} ” which appears in claims 1 and 5. The parties disagree over the definition of “ SIR_{req} ” as it is used in a phrase in each claim: “setting a desired signal to interference ratio target (SIR_{target}) that is close to a signal to interference ratio required (SIR_{req}) during the normal mode of the outer loop” in claim 1, and “setting a desired signal to interference ratio target (SIR_{target}) that is close to a signal to interference ratio required (SIR_{req}) during the normal mode of the outer loop” in claim 5.

The dispute is twofold. First, as to the meaning of (SIR_{req}), Plaintiff proposes an unstated plain meaning, while Defendant LG and Samsung suggest that it means the “theoretical minimum of the desired signal to interference ratio received (SIR_{rec}) that satisfies the target frame error rate (FER_{target}).” Second, the parties have an apparent dispute about the indefiniteness of “the phrase ‘close to,’” as it appears in claims 1 and 5. Defendants say that “close to” renders the claim indefinite as a whole. Plaintiff asserts that the term is not indefinite.

As to the meaning of (SIR_{req}), the ’865 patent defines it. Specifically, it says: “(SIR_{req}) [is] defined as a theoretical minimum of the desired signal to interference ratio received (SIR_{rec}) that satisfies the target frame error rate (FER_{target}).”^[12] Plaintiff does not argue that construction is wrong. Instead, it argues that additional verbiage and additional technical terms are not helpful or necessary. I do not know if that’s true or not, but as that is a definition that the patentee provided, I think it is fair to adopt it.

I also find that the use of the terms “close to” and “suitably close to” do not make the longer terms at issue indefinite. Defendants have the burden of proving indefiniteness by clear and convincing

¹¹ (See D.I. 229, Ex. I at 4).

¹² (’865 patent at 7:45-48).

evidence.^[13] Defendants essentially argue that there are no objective bounds in the intrinsic evidence and its expert offered a declaration that it is not a term with a set understanding.^[14] The Federal Circuit has “repeatedly confirmed,” however, that relative terms do not render a claim indefinite.^[15] Instead, terms of degree “usually [can] be understood” in the art in light of the technology at issue and whether an accused device meets a reasonable term of degree is properly a question of fact.^[16] Here, a skilled artisan would understand the meaning of the phrase “close to” or “suitably close to”, especially because the terms are used throughout the patent with terms such as the “closest possible value” and “as close as possible.”^[17] And the Federal Circuit has routinely found that use of such terms of approximation are not indefinite.^[18]

¹³ See *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017).

¹⁴ The expert’s declaration appears to be simply a copy of a different declaration. (See D.I. 228 at 18-19, 50; D.I. 229, Exs. P & S).

¹⁵ *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1359 (Fed. Cir. 2012) (“This court has repeatedly confirmed that relative terms such as ‘substantially’ do not render patent claims so unclear as to prevent a person of skill in the art from ascertaining the scope of the claim.”).

¹⁶ *Modine Mfg. Co. v. U.S. Int’l Trade Comm’n*, 75 F.3d 1545, 1554 (Fed. Cir. 1996).

¹⁷ (See, e.g., ’865 Patent at 2:40; *id.* at 4:25 (“suitably close to”); 4:30 (“as close as possible”); *id.* at 4:42 (“its closest possible value”); *id.* at 4:53; *id.* at 5:12-13 (“as closely as possible”); *id.* at 7:26 (“equal or as close as possible to”); *id.* at 8:1 (“very close to”); *id.* at 8:52; *id.* at 9:1; *id.* at 9:25).

¹⁸ See, e.g., *Andrew Corp. v. Gabriel Elecs., Inc.*, 847 F.2d 819, 821-22 (Fed. Cir. 1988) (terms “close to,” “closely approximate,” “approach each other,” and “substantially equal” not indefinite); *Bush Hog*, 703 F.3d at 1359; *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1345-46 (Fed. Cir. 2007) (“[T]he term ‘near’ is not insolubly ambiguous and does not depart from the ordinary and customary meaning of . . . ‘close to or at.’”); *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1546-47 (Fed. Cir. 1984) (“close proximity” not indefinite); *Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (“[A] person of ordinary skill in the field would understand the meaning of ‘near’ and ‘adapted to.’”); *Accentra, Inc. v. Staples, Inc.*, 500 Fed. Appx. 922, 930-31 (Fed. Cir. 2013) (the ordinary meaning of “near” is “at or in the vicinity of”).

Defendants’ attempt to distinguish these cases as pertaining to physical proximity rather than mathematical precision is unavailing. (D.I. 228 at 14 n.5). Defendants offer no reason

The third disputed term is “outer loop wind-up” in claims 1, 2, 3, and 5 of the ’865 patent. Plaintiff proposed the plain and ordinary meaning, which it asserts is “an outer loop condition wherein the signal to interference ratio received (SIR_{rec}) does not follow the desired signal to interference ratio target (SIR_{target}), for reasons such as worsening of channel conditions or saturation of the transmitter.” Defendants counter that “outer loop wind-up” means “outer loop condition or mode that would dictate increases to the signal to interference ratio target (SIR_{target}) that cannot be followed by the signal to interference ratio received (SIR_{rec}) because of sustained worsening as the channel’s conditions or sustained transmission of the transmitter at the maximum power available for the connection.”

As briefed, there were three disputes: Defendants’ additions of the words “mode,” “sustained” and “increases.” Plaintiff in a related case in Texas had actually proposed the words “mode” and “increases” in its proposed constructions. Today, Plaintiff agreed to inclusion of “mode” and the parties informed me that “increases” is not actually an issue of claim scope that is in dispute. That left us with the issue of “sustained.” Although I had been leaning towards construing the term as proposed by Plaintiff, I was persuaded that its proposed definition, a signal to interference ratio received that does not follow the desired signal to interference ratio target (SIR_{target}) could apply in normal mode, which seems inconsistent with the patent. So we came to an agreement that the construction “an outer loop condition or mode, that occurs outside of normal mode, wherein the signal to interference ratio received (SIR_{rec}) does not follow the desired signal to interference ratio target (SIR_{target})” is appropriate.

The fourth disputed term is “outer loop unwinding” in claims 1, 2, 4, and 5 of the ’865 patent. Plaintiff proposes the plain and ordinary meaning, which says is “exiting or recovering from outer loop wind-up.” Defendants LG and Samsung proposed the construction “outer loop condition or mode involving the process of lowering the desired signal to interference ratio target (SIR_{target}) set during the outer loop wind-up.” Here, I largely agree with Defendants. Defendants’ proposal comes almost verbatim from the specification, which states that “[t]his process of lowering the desired signal to interference ratio target (SIR_{target}) after the end of the condition described above, that is, after wind-up, is called the outer loop

why the rationale underlying each of these cases does not apply with equal force to situations such as the present one. Indeed, the Court sees no basis for distinction.

unwinding condition or mode.”^[19] The specification then goes on to explain that “this invention proposes a method for specifically this mode.” Given the clarity of the specification, I do not see the propriety of adding in the term “recovering,” as Plaintiff proposes. That word is not used in the specification, and I agree with Defendants that it would not be helpful to the jury. So I will construe the term to mean the process of “lowering the desired signal to interference ratio target (SIR_{target}) set during the outer loop wind-up.”

The next disputed term in the ’865 patent appears in claims 1 and 5. It is “wherein the desired signal to interference ratio target (SIR_{target}) is modified at the start of the outer loop unwinding, to match it to the outer loop power control in normal mode just prior to the start of the outer loop wind-up.” Plaintiff proposes plain and ordinary meaning, which it contends is the phrase as written. The Defendants apparently do not take issue with most of the phrase but suggest replacing the words “to match it to” in the second clause with “to the last specific historical value of the SIR_{target} that was previously set for.” Here, I agree with Plaintiff. Plaintiff’s construction is supported intrinsically by additional references to “matching” throughout the specification.^[20] The thrust of Defendants’ argument is that during the prosecution and the IPR the patentee disclaimed methods that modify the desired SIR_{target} where SIR_{target} converges over some time period to the required SIR , and limited the claim to a modification of SIR_{target} that essentially eliminates the convergence period altogether.^[21]

With respect to Defendants’ arguments about TOT’s prosecution statements about the Chi and Laakso prior art, I find that those

¹⁹ (’865 patent at 3:23-27; *see also id.* at 4:49-56 (“What this invention proposes for the outer loop power control method when it exits wind-up, that is, at the start of unwinding, is to change the desired signal to interference ratio target (SIR_{target}), making it equal to a value as close as possible to its value when the outer loop power control (OLPC) itself ceases to operate in normal mode, that is, just before it enters wind up.”)).

²⁰ (*See, e.g., id.* at 4:35-39 (“[T]his suitable changing of the desired signal to interference ratio target (SIR_{target}) by the invention when unwinding starts in the outer loop power control (OLPC) quickly matches the target (SIR_{target}) and, therefore, the power to the outer loop in normal mode.”); *id.* at 5:5-9 (“Changing the ratio of the signal required to interference (SIR_{target}) at the start of the outer loop unwinding, to thus finally match it to the outer loop power control in normal mode.”); *id.* at 8:60-64; *id.* at 9:33-10:2).

²¹ (*See* D.I. 229, Ex. H at 7; Ex. I at 20, 36-37; Ex. N at 19-20).

statements do not preclude TOT from now arguing for their plain meaning definition of “matching.” TOT merely stated that Chi did not disclose matching.^[22] And I do not agree that the general statement distinguishing the “history information” in Laakso with the SIR_{target} information in the ’865 patent gives rise to a clear and unambiguous disclaimer. Nor do I think that the statements merit me adding the claim language Defendants propose based on the statements in the prosecution and IPR by looking at them in connection with claim construction ala Phillips. As the only dispute in the entire phrase was about the words “to match it to,” I will construe the term according to its plain and ordinary meaning as Plaintiff proposes.

Next, we move to the ’376 patent where we have three terms that all use the word “some,” i.e., “some fading margins,” “some outage probabilities,” and “some fading parameters.” Each of these terms appear in claims 1, 6, and 13 of the ’376 patent. For all three, the parties’ disagreement turns on the meaning of the word “some.” Plaintiff suggests we adopt the plain and ordinary meaning, which it says is “one or more.” Defendants propose the definition of “more than one.”

I find that the plain and ordinary meaning of “some” here is one or more.^[23] Some, in other words, is the opposite of “none.”^[24] The ordinary meaning is nowhere refuted in the intrinsic language of the patent by phrases to the contrary, such as, for instance, “at least two,” “multiple,” “plural,” or “more than one” – any of which could have been used, if such was the intention of the claim. Indeed, neither party disputes that the invention would work in the case of “one fading margin,” “one outage probability,” or “one fading parameter.” To the contrary, the ’376 patent acknowledges that the invention may involve, at times, only one fading margin. For example, the patent discusses that in connection with an embodiment of the invention using fading margins that in a

²² (See *id.*, Ex. H at 7 (“Chi does not show or suggest matching the SIR_{target} to the outer loop power control prior to the start of wind up.”))).

²³ See, e.g., *Some*, Merriam-Webster Dictionary (11th ed. 2024) (“being one, a part, or an unspecified number of something”); *Some*, Oxford English Dictionary (10th ed. 2024) (“One or other; an undetermined or unspecified [amount].”).

²⁴ See, e.g., *Some*, Cambridge Dictionary (4th ed. 2024) (listing “none” as the “antonym” of “some”).

particular linear combination discussed in a prior patent application “a single fading margin is taken.”^[25] This seems to suggest that N could equal 1 in the series of “some fading margins” (M_1 , M_2 , and M_N). Because the parties agree that the construction of “some” in “some fading margins” should be used consistently for the construction of “some outage probabilities” and “some fading parameters,”^[26] I find that “some” means “one or more” in all three cases.

The final disputed term of the '376 patent appears in claims 1, 6, and 13 and is as follows: “by means of a dynamic adjusting function which performs a mapping between a quality criterion based on the outage probabilities (P_{o1} , P_{o2} through P_{oN}) and the quality criterion based on the target block error rate ($BLER_{target}$).” Plaintiff suggests adopting the plain and ordinary meaning. Defendants argue that this is a means-plus-function claim and the definition is dictated by 35 U.S.C. § 112. I do not agree that it is a means-plus-function claim and so I will adopt Plaintiff's construction and give it its plain and ordinary meaning.

First, I agree with Plaintiff that the phrase “by means of” does not trigger a presumption that a claim is drafted in the means-plus-function format.^[27] I understand that the Federal Circuit case clearly stating that came before *Williamson*,^[28] but I think the reasoning still applies. And here, I think it makes particular sense because “by means of” simply means “using,” as the claims explain how to perform the “establishing step” of each claim. Defendants additionally assert that the term “dynamic adjusting function” fails to recite a sufficiently definite structure and therefore is a nonce word. Plaintiff replies that the disputed claim language is not a structure, but instead the mathematical operations involved in a step. I agree with Plaintiff that the “dynamic adjusting function” here is not an opaque structure but instead a formula “which performs . . . based on” certain enumerated inputs, such as the outage

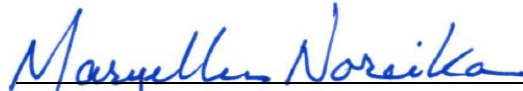
²⁵ ('376 patent at 10:59-67).

²⁶ (See D.I. 228 at 65-70).

²⁷ See *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1098-99 (Fed. Cir. 2014) (“We are unaware of any precedent stating that the presumption [of a means-plus-function term] is triggered by a claim’s use of the expression ‘by means of.’”).

²⁸ *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347 (Fed. Cir. 2015).

probabilities and block error rate.^[29] Accordingly, I accept Plaintiff's proposed definition and give the term its plain and ordinary meaning. So those are my constructions for the disputed terms.



The Honorable Maryellen Noreika
United States District Judge

²⁹ (See '376 patent at 14:62-67; *id.* at 15:44-53; *id.* at 16:34-40).